

U.S. Serial No. 09/179,188

KAS-125

REMARKS

The Applicants request reconsideration of the rejection.

Claims 20-21, 24, 29, 33-36, 53-59, and 65-72 remain pending.

Claims 53-59 and 65-72 were rejected under 35 U.S.C. 112, first and second paragraphs for the reasons set forth on Pages 2-4 of the Office Action. Each ground for rejection will be addressed in turn.

35 U.S.C. 112, first paragraph

1) The Examiner asserted that the specification fails to disclose methods for purification of nucleic acids, as required by Claims 53 and 65, that omit steps of mixing, contacting, and isolating prior to washing as required by lines 4-12 of Claim 20. In reply, the Applicants have amended Claim 53 to require mixing, contacting, and isolating steps performed before the washing step. Please note, however, that Claim 53 is differentiated from Claim 20 and Claim 65 in that the mixing step of Claim 53 does not contain the language for binding of nucleic acids to a solid phase containing silicon oxide. Further, Claim 65 is differentiated from Claim 20 and Claim 53 in that the contacting step of Claim 65 does not contain the language to bind nucleic acids to the solid phase.

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Note, however, that the isolating step of Claim 53 and Claim 65 continues to require that the solid phase containing bound nucleic acids be isolated from the mixture; the washing step continues to require that the solid phase containing bound nucleic acids be washed with a solution containing a chaotropic substance and then with a solution containing alcohol and acetate; and the eluting step continues to require that the nucleic acids bound to the solid phase be eluted thereafter.

2) The Examiner also found that the specification does not support washing a solid phase that does not contain bound nucleic acids as encompassed by lines 9-11 of Claims 53 and 65. As noted above, the washing step in each of these claims requires that the solid phase being washed must contain bound nucleic acids.

3) The Examiner also found that the specification does not support modifying the mixing step of Claim 53 as required by Claim 56. In reply, the Applicants have amended Claim 56 to recite that the mixture of the nucleic acid-containing material and the accelerator substance is stirred with the solid phase at room temperature to bind the nucleic acids to the solid phase. This language is similar to Claim 33, which has been allowed.

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4) Further, the Examiner determined that the specification does not support the steps of Claim 65 of "mixing together" as in lines 3-5 where a solid phase is present, and then contacting with a solid phase as required in lines 6-8. Claim 65 has been amended to correct this informality.

35 U.S.C. 112, second paragraph

1) In rejecting the claims under the second paragraph of 112, the Examiner found that Claim 53 is unclear as to the form of the solid phase when washed (citing lines 9-11) since mixing (citing lines 6-8) results in a mixture rather than merely a solid phase. Further, the Examiner found confusing the language requiring eluting nucleic acids bound to the solid phase because no previous step of binding nucleic acids was required. The above amendments to Claim 53 clarify the form of the solid phase when washed, and require a contacting step to bind nucleic acids to the solid phase. This language is similar to Claim 20, which has been allowed.

2) The Examiner also found Claim 56 unclear by not further limiting the mixing step set forth in lines 6-8 of Claim 53, but requiring a different mixing procedure that is not within the scope of "mixing together" as in lines 6-8 of

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Claim 53. Additionally, the Examiner found no clear antecedent basis for "the mixing step" in line 2 of Claim 56. As discussed above, the amendments to Claim 56 remove the objectionable language, and correct any informality in the claim.

3) Further, the Examiner found Claims 53 and 65 to be unclear as to whether the solid phase being washed contains bound nucleic acids. Claim 53 has been amended to require a contacting step to bind nucleic acids to the solid phase, and to require the washing step to wash the solid phase containing bound nucleic acids. Claim 65 has been amended to require that the mixing step be performed for binding of nucleic acids to a solid phase containing silicon oxide, and the step of washing to wash the solid phase containing bound nucleic acids.

4) Finally, the Examiner found Claim 65 to be confusing by requiring that the mixture be contacted with a solid phase, which also appears in the mixing step. For clarity, the mixing of the solid phase has been removed from the mixing step. The Examiner also found no clear antecedent basis for the mixing step in line 6, which has been remedied by the above amendments.

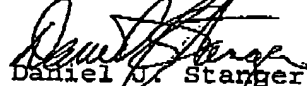
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The Applicants note the allowability of Claims 20-21, 24, 29, and 33-36, and the Examiner's note that Claims 53-59 and 65-72 are free of the prior art. None of the above amendments broadens the claims so as to make them fall within the prior art, and thus the Applicants believe that all claims are in condition for allowance.

In view of the foregoing amendments and remarks, the Applicants respectfully request reconsideration of the rejection and allowance of the claims.

Respectfully submitted,

  
Daniel O. Stanger  
Registration No. 32,846  
Attorney for Applicants

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.  
1800 Diagonal Road, Suite 370  
Alexandria, Virginia 22314  
Telephone: (703) 684-1120  
Facsimile: (703) 684-1157  
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